

Remarks

This Amendment is in response to the Office Action of December 20, 2002, wherein the Examiner rejected claims 1-20, all claims in the application.

The Examiner first objected to the specification over some informalities which have been corrected above in the specification and drawings.

Applicants point out that the fuel tank being mounted on a rearward facing surface of the tower is described on page 5, line 25 of the specification.

The Examiner next objected to the drawings for failing to show reference signs as itemized. Applicants have corrected the drawings above to overcome this objection.

Applicants point out however that the referenced sign "68c" is mentioned in the specification at page 5, line 11.

Applicants also point out that the fuel tank having a matching outside contour as the tower is shown in Figure 5.

Applicants have also removed the boxes marked A, B and C from Figures 4 and 5.

The Examiner next objected to claims 2, 10, and 16 over the term "identical outside lateral contour." The claims have been amended to recite "matching" or "match" to overcome this objection. Claim 14 has also been amended to overcome a redundancy objection.

The Examiner next objected to claims 1-20 for antecedent basis and clarity problems. The claims have been amended above to overcome these objections.

The Examiner next rejected claim 1 as being anticipated by *Klee*, U.S. Patent 3,828,952. Applicants have amended claim 1 to describe the towers as each having a

laterally displaced load path portion which is not present in *Klee*. The towers in *Klee* are substantially vertical with a vertical load path throughout.

The Examiner next rejected claim 1 and 5 over German Patent 1248551. Similar to *Klee* this reference does not disclose a laterally displaced load path portion as per claim 1. The towers disclosed in German Patent 1248551 are vertical with a vertical load path throughout.

The Examiner next rejected claims 1, 6 and 7 over *Anderson* US Patent 4,345,870. Similar to the above references, this reference does not disclose towers having laterally displaced load paths as per claim 1. The towers in *Anderson* are vertical with a vertical load path throughout.

The Examiner next rejected claim 15 under 35 USC §102(b) as being anticipated by *Anderson, et al.*, U.S. Patent 3,828,952. Based on the reference characters recited by the Examiner, Applicants assume the Examiner is referring to *Anderson*, U.S. Patent 4,345,870. Applicants have amended claim 15 to include the recitation of angled boom arm portions which are not disclosed in *Anderson* '870. The boom arms in *Anderson* '870 are substantially straight from towers to the bucket.

One aspect of the present invention provides a utility tractor having a front loader bucket, wherein the utility tractor has structural support components shaped to allow effective driver viewing of the front axle, the top of the bucket, and the side edges of the bucket.

One aspect of the present invention provides towers each having a substantially vertical load path between a boom arm and the chassis. The load path includes a laterally displaced load path portion to direct the vertical load from the boom arm

outwardly to the chassis. This laterally displaced load path portion can be in the form of a curved portion, tapered portion, angular portion or any other offset portion.

According to one aspect of the present invention, the boom arms extend forwardly from their connection to the towers and then curve, angle, are tapered or are otherwise offset outwardly to a wide spacing and then proceed forwardly substantially in parallel to the bucket connection.

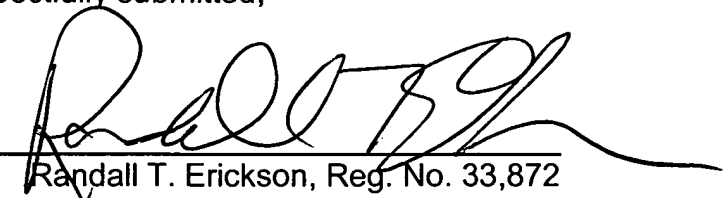
The arrangement of the offset towers and offset boom arms allows increased driver visibility to the front axle and increased driver visibility to side edges of the bucket.

Applicants assert that such configuration is not taught or suggested in the prior art cited by the Examiner and request withdrawal of the rejection.

The Examiner next indicated that claims 2-4, 10-14 and 16-20 would be allowable if rewritten to overcome the rejections under 35 USC §112 and to include all of the limitations of the base claim and any intervening claims. Applicants have substantially complied with the Examiner's instructions and as such these claims should all be in condition for allowance.

Respectfully submitted,

By:


Randall T. Erickson, Reg. No. 33,872

Attorney Docket No.: DEE6270P0160US
POLIT & ERICKSON, LLC
3333 Warrenville Road, Suite 520
Lisle, Illinois 60532
Telephone: 630-505-1460
Fax: 630-505-1464

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In The Drawings

Please amend Figures 2, 3, 4, and 5 per the attached red-marked sheets.

In The Specification

Please amend the paragraph beginning at page 4, line 22 as follows:

A loader bucket 52 is provided on a front of the tractor 20. The loader bucket 52 is supported on a boom comprising two symmetrical boom arms 58, 60. Substantially vertical towers 68, 70 have base ends [8a] 68a, 70a that are curved inwardly to be fixed to the chassis 24, as shown in Figures 5 and 6. The boom arms 58, 60 have base ends 58a, 60a that are pivotally connected on a lateral pivot axis 61 (shown in Figures 2 and 6) to distal ends 68b, 70b of the towers. The boom arms 58, 60 are pivotally connected at distal ends 58b, 60b to the bucket 52.

Please amend the paragraph beginning at page 5, line 10 as follows:

As illustrated in Figure 6, the towers 68, 70 extend upwardly for a distance to the mid-location 68c, 70c which is the connection point of the hydraulic cylinders 78, 80 and then continue upwardly and are angled, curved, tapered or otherwise offset inwardly to the distal ends 68b, 70b of the towers at the connection of the boom arms 58, 60. The inward offset of the towers creates a recessed outer, upper edge 68d, 70d that allows the operator to view the side edges of the bucket 52 from his seated position, with possibly only a small lateral movement of the operator's head.

Please amend the paragraph beginning at page 5, line 24 as follows:

As illustrated in Figures 4 and 5, the fuel tank 38 is mounted to cover a rear surface of the engine compartment and a rear surface of the towers 68, 70 that substantially faces the driver. The fuel tank 38 is a complex shaped container that includes a central portion 38a and two wing portions 38b, 38c connected to the central portion 38c by upper and lower tube portions 38d, 38e and 38f, 38g, respectively. Gaps [80] 81, 82 are formed between the wing portions 38b, 38c and the central portion 38a. These gaps [80] 81, 82 coincide with lateral spaces 84, 86 (shown in Figure 6) formed between the hood 40 and the towers 68, 70 and allow an unobstructed downward oblique view of the utility vehicle axle 27 and the ground below. The wing portions 38b, 38c are tapered or otherwise contoured inwardly at sides thereof to match the inward offset of the towers 68, 70.

Please amend the paragraph beginning at page 6, line 11 as follows:

To additionally improve driver visibility, the hood 40 includes a top surface [86] 87 that is steeply declined in a forward direction. The steep decline of the hood 40 allows an unobstructed driver view of a top edge 52c of the bucket when the tractor and the bucket are resting on level ground.

Please amend the paragraph beginning at page 6, line 20 as follows:

The dimensions for one example of a preferred embodiment of the present invention are as follows:

| | <u>dimension</u> |
|--|------------------|
| horizontal distance [a] " <u>a</u> " from driver's eye 100 to top edge of hood | 994 mm |
| horizontal distance [b] " <u>b</u> " from top edge of hood to top edge of grill | 1,012 mm |
| horizontal distance [c] " <u>c</u> " from top edge of grille to top edge of bucket | 1,037 mm |
| vertical distance [d] " <u>d</u> " from driver's eye to top edge of hood | 551 mm |
| vertical distance [e] " <u>e</u> " from top edge of hood to top edge of grille | 433 mm |
| vertical distance [f] " <u>f</u> " from driver's eye to top edge of bucket | 1,353 mm |
| distance from [g] " <u>g</u> " connection of boom to tower to inflection point of boom | 995 mm |
| horizontal clearance [h] " <u>h</u> " between boom arms after inflection point | 778 mm |
| horizontal clearance [i] " <u>i</u> " between towers at distal ends | 523 mm |
| horizontal offset [j] " <u>j</u> " of outer surface of towers | 56 mm |
| vertical distance [k] " <u>k</u> " between top of tower and midpoint connection of hydraulic cylinder | 450 mm |
| vertical distance [l] " <u>l</u> " between midpoint connection of hydraulic cylinder and bottom of outer surface | 478 mm |

In The Claims

Please amend claim 1 as follows:

1. (Amended) A utility vehicle comprising:

a chassis supported on wheels;

a loader bucket;

a pair of towers supported on said chassis and extending substantially vertically[, said towers shaped to have outside edges that are further apart at a bottom thereof and closer at a top thereof; and];

a pair of boom arms pivotally connected at base ends thereof to [a top] tops of said [tower] towers, respectively, and connected at distal ends thereof to said loader bucket; and

said towers providing substantially vertical load paths therethrough between the boom arms and the chassis, said towers shaped to provide a laterally displaced load path through a portion of each of said substantially vertical load paths changing said substantially vertical load paths from closer together at tops of said towers to further apart at bottoms of said towers.

Please amend claim 2 as follows:

2. (Amended) A utility vehicle comprising:

a chassis supported on wheels;

a loader bucket;

a pair of towers supported on said chassis and extending substantially vertically, said towers shaped to have outside edges that are further apart at a bottom thereof and closer at a top thereof;

a pair of boom arms pivotally connected at base ends thereof to tops of said towers, respectively, and connected at distal ends thereof to said loader bucket;
and

[The utility vehicle according to claim 1, further comprising] a fuel tank mounted onto a rearward facing surface of said towers and having [an identical] a lateral outside contour [as] that matches said towers.

Please amend claim 3 as follows:

3. (Amended) A utility vehicle comprising:

a chassis supported on wheels;

a loader bucket;

a pair of towers supported on said chassis and extending substantially vertically, said towers shaped to have outside edges that are further apart at a bottom thereof and closer at a top thereof;

a pair of boom arms pivotally connected at base ends thereof to tops of said towers, respectively, and connected at distal ends thereof to said loader bucket;
and

[The utility vehicle according to claim 1, wherein said utility vehicle includes] an engine compartment supported on said chassis behind said loader bucket, and a fuel tank, and a hood covering at least a top [surface] of said engine compartment, wherein

said towers are laterally spaced from said hood forming two spaces on opposite lateral sides of said hood, and said fuel tank includes two gaps which coincide with the two spaces between said towers and said hood.

Please amend claim 4 as follows:

4. (Amended) The utility vehicle according to claim 3, wherein said hood has a top surface that declines from an end closest to the fuel tank to an opposite end closest to the loader bucket, said [declined] top surface allowing [said] an operator to view a top edge of said bucket when said bucket and wheels are set on level ground.

Please amend claim 5 as follows:

5. (Amended) The utility vehicle according to claim 1, wherein said towers extend from [said] base ends of said towers toward [said] distal [end] ends of said towers substantially in parallel and have angled portions that are [offset] angled toward each other at a position on each tower substantially midway between [a] said base end and [a] said distal end of each tower.

Please amend claim 6 as follows:

6. (Amended) The utility vehicle according to claim 1, wherein said boom arms extend from said distal ends of said boom arms toward said base ends of said boom arms substantially in parallel and are offset toward each other at a position on each boom arm substantially midway between [a] said base end and [a] said distal end of each boom arm.

Please amend claim 7 as follows:

7. (Amended) The utility vehicle according to claim 1, wherein said boom arms are closer together at said base ends thereof than at said distal ends thereof.

Please amend claim 8 as follows:

8. (Amended) A utility vehicle comprising:
a chassis supported on wheels;
a loader bucket;
a pair of towers supported on said chassis and extending substantially vertically;
a pair of boom arms pivotally connected at base ends thereof to tops of said towers, respectively, and connected at distal ends thereof to said loader bucket, said boom arms extending in parallel from said loader bucket rearward and at a substantially midway position being [offset] angled inwardly toward each other to said base ends.

Please amend claim 10 as follows:

10. (Amended) A utility vehicle comprising:
a chassis supported on wheels;
a loader bucket;
a pair of towers supported on said chassis and extending substantially
vertically;

a pair of boom arms pivotally connected at base ends thereof to tops of said towers, respectively, and connected at distal ends thereof to said loader bucket, said boom arms extending in parallel from said loader bucket rearward and at a substantially midway position being offset inwardly toward each other to said base ends;
and

[The utility vehicle according to claim 8 further comprising] a fuel tank mounted onto a rearward facing surface of said towers and having [an identical] a matching outside lateral contour as said towers.

Please amend claim 11 as follows:

11. (Amended) A utility vehicle comprising:
a chassis supported on wheels;
a loader bucket;
a pair of towers supported on said chassis and extending substantially vertically, said towers are shaped to be further apart at a bottom thereof and closer together at a top thereof;
a pair of boom arms pivotally connected at base ends thereof to tops of said towers, respectively, and connected at distal ends thereof to said loader bucket, said boom arms extending in parallel from said loader bucket rearward and at a substantially midway position being offset inwardly toward each other to said base ends;
and

[The utility vehicle according to claim 9, wherein said utility vehicle includes] an engine compartment supported on said chassis behind said loader bucket

and a fuel tank, and a hood covering at least a top [surface] of said engine compartment, wherein said towers are spaced from said hood forming two spaces on opposite lateral sides of said hood, and said fuel tank includes two gaps which coincide with the two spaces between said towers and said hood.

Please amend claim 12 as follows:

12. (Amended) The utility vehicle according to claim 11, wherein said hood has a top surface that declines from an end closest to the fuel tank to an opposite end closest to the loader bucket, said declined top surface allowing [said] an operator to view a top edge of said bucket when said bucket and said wheels are set on level ground.

Please amend claim 13 as follows:

13. (Amended) The utility vehicle according to claim [8] 12, wherein said towers extend from [said] base ends of said towers toward [said] distal ends of said towers substantially in parallel and are offset toward each other at a position on each tower substantially midway between [a] said base end and [a] said distal end of each tower.

Please amend claim 14 as follows:

14. (Amended) A utility vehicle comprising:
a chassis supported on wheels;
a loader bucket;

a pair of towers supported on said chassis and extending substantially vertically;

a pair of boom arms pivotally connected at base ends thereof to tops of said towers, respectively, and connected at distal ends thereof to said loader bucket, said boom arms extending in parallel from said loader bucket rearward and at a substantially midway position being offset inwardly toward each other to said base ends; and

[The utility vehicle according to claim 8,] wherein said towers extend from [said] base ends of said towers toward [said] distal ends of said towers substantially in parallel and are offset toward each other at a position on each tower substantially midway between [a] said base end and [a] said distal end of each tower.

Please amend claim 15 as follows:

15. (Amended) A utility vehicle comprising:

a chassis supported on wheels;

a loader bucket;

a pair of towers supported on said chassis and extending substantially vertically, said towers having angled tower portions extending obliquely toward each other, said towers shaped to be further apart at a bottom thereof and closer at a top thereof; and

a pair of boom arms pivotally connected at base ends thereof to [a top] tops of said [tower] towers, respectively, and connected at distal ends thereof to said loader bucket, said boom arms having angled boom arm portions extending obliquely

toward each other in a rearward direction, said boom arms shaped to be closer together at said base ends than at said distal ends.

Please amend claim 16 as follows:

16. (Amended) A utility vehicle comprising:

a chassis supported on wheels;

a loader bucket;

a pair of towers supported on said chassis and extending substantially vertically, said towers shaped to be further apart at a bottom thereof and closer at a top thereof;

a pair of boom arms pivotally connected at base ends thereof to tops of said towers, respectively, and connected at distal ends thereof to said loader bucket, said boom arms closer together at said base ends than at said distal ends; and

[The utility vehicle according to claim 15, further comprising] a fuel tank mounted onto a rear surface of said towers and having an [identical] outside lateral contour [as] that matches said towers.

Please amend claim 17 as follows:

17. (Amended) A utility vehicle comprising:

a chassis supported on wheels;

a loader bucket;

a pair of towers supported on said chassis and extending substantially vertically, said towers shaped to be further apart at a bottom thereof and closer at a top thereof;

a pair of boom arms pivotally connected at base ends thereof to tops of said towers, respectively, and connected at distal ends thereof to said loader bucket, said boom arms closer together at said base ends than at said distal ends; and

[The utility vehicle according to claim 15, wherein said utility vehicle includes] an engine compartment supported on said chassis behind said loader bucket and a fuel tank, and a hood covering at least a top [surface] of said engine compartment, wherein said towers are spaced from said hood forming two spaces on opposite lateral sides of said hood, and said fuel tank includes two gaps which coincide with the two spaces between said towers and said hood.

Please amend claim 18 as follows:

18. (Amended) The utility vehicle according to claim 17, wherein said hood has a top surface that declines from an end closest to the fuel tank to an opposite end closest to the loader bucket, said declined top surface allowing [said] an operator to view a top edge of said bucket when said bucket and said wheels are set on level ground.

Please amend claim 19 as follows:

19. (Amended) A utility vehicle comprising:
a chassis supported on wheels;

a loader bucket;

a pair of towers supported on said chassis and extending substantially vertically, said towers shaped to be further apart at a bottom thereof and closer at a top thereof;

a pair of boom arms pivotally connected at base ends thereof to tops of said towers, respectively, and connected at distal ends thereof to said loader bucket, said boom arms closer together at said base ends than at said distal ends; and

[The utility vehicle according to claim 15,] wherein said towers extend from [said] base ends thereof toward [said] distal ends thereof, substantially in parallel and are offset toward each other at a position on each tower substantially midway between [a] said base end and [a] said distal end of each tower.

Please amend claim 20 as follows:

20. (Amended) The utility vehicle according to claim 19, wherein said boom arms extend from said distal ends of said boom arms toward said base ends of said boom arms substantially in parallel and are [offset] angled toward each other at a position on each boom arm substantially midway between [a] said [base] distal end and [a] said [distal] base end of each boom arm.